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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,293	07/20/2005	Michael Ludensky	05408/100J111-US2	8281
7278	7590	10/05/2006		
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			EXAMINER HRUSKOCI, PETER A	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/540,293	LUDENSKY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Peter A. Hruskoci	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hight et al. 5,662,940. Hight et al. disclose (see col. 2 line 59 through col. 3 line 42, col. 9 line 30 through col. 11 line 38, and col. 30 lines 33-64) a method of adding chlorinated hydantoins to an aqueous medium substantially as claimed. The claims differ from Hight et al. by reciting that the method disintegrates biofilm, flocculent bulked sludge, or bulked biologically active sludge in the aqueous medium. It is submitted that the control of the microbial deposits or biofouling in Hight et al. would appear to include the disintegration of biofilm and bulked biologically active sludge as in the instant method. It would have been obvious to one skilled in the art to modify the method of Hight et al. by disintegrating the recited biofilm and sludge, to aid in preventing biofouling on surfaces in contact with the aqueous medium. The specific amount of hydantoin added, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific aqueous medium treated and results desired, absent a sufficient showing of unexpected results.

Claims 7, 8, 14, 15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hight et al. 5,662,940 as applied above, and further in view of Sweeny 5,565,109. The claims differ from Hight et al. as applied above by reciting that the chlorinated hydantoin is formed in situ in the aqueous medium from a chlorine source and an alkylated hydantoin. Sweeny disclose (see col. 1 line 56 through col. 3 line 48) that it is known in the art to form a

biocide in situ by adding hypochlorite and dimethylhydantoin to the aqueous medium, to enhance bactericidal efficacy of the hypochlorite. It would have been obvious to one skilled in the art to modify the method of Hight et al. by forming the recited chlorinated hydantoin in situ in the aqueous medium in view of the teachings of Sweeny, to aid in preventing biofouling in the aqueous medium. The specific molar ratio utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific aqueous medium treated and results desired, absent a sufficient showing of unexpected results.

Applicants argue that Hight et al. do not teach or suggest dissolving or removing an existing biofilm with one or more chlorinated hydantoins in the absence of a bromide ion donor. It is noted that the instant claims are drawn to disintegrating a biofilm or bulked sludge, and do not appear to include dissolving an existing biofilm. It is submitted that the bromide ion donor of Hight et al. is not excluded from the instant claims. It is further submitted that Hight et al. appear disclose in col. 3 lines 23-34 that it is known in the art to utilize chlorinated hydantoins to control the population of microorganisms in water, and prevent fouling of heat exchanger surfaces. This control would appear to include dissolving, disintegrating, or removing of at least some of the biofilm associated with the microorganisms.

Applicants argue that Hight et al. explicitly teaches away from using halogenated hydantoins because of their alleged disadvantages. It is submitted that 1-bromo-3-chloro-5,5-dimethylhydantoin (BCDMH) as disclosed in Hight et al. appears to be included in the chlorinated hydantoins recited in claim 1. Furthermore, applicants have not present sufficient comparative evidence with Hight et al. to support the above argument.

Applicants allege that the present application clearly demonstrates that chlorinated

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hydantoins have unique properties in biofilm removal and are superior to brominated hydantoins (see Tables 1 and 2). The test results shown in instant Tables 1 and 2 have been carefully considered but fail to overcome the above rejections. It is submitted that the specific test conditions utilized to produce the results shown in the Tables are not commensurate with the scope of the instant claims. It is noted that the test results are drawn to the use of specific amount of specific chlorinated hydantoins in the treatment of specific microorganisms.

Applicants allege that there would have been no expectation in the art that one would be able to produce chlorinated hydantoin as in Sweeny in the claimed concentrations and in the presence of the required bromide ion donor of Hight et al. It is noted that the presence of bromide is not excluded from the instant claims. It would appear that the combined teachings of Hight et al. and Sweeny would suggest to one skilled in the art of water treatment the formation of a concentration of at least .01 ppm of chlorinated hydantoin as recited in the instant claim. Furthermore, applicants have not present sufficient factual evidence to support the above allegation.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period


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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter A. Hruskoci whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Peter A. Hruskoci  
Primary Examiner  
Art Unit 1724

10/2/06